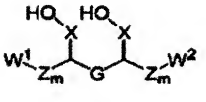
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the current application.

Listing of Claims

Claim 1 (currently amended): A compound of the formula I:



I

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein

(a) each occurrence of Z is independently CH_2, CH=CH, or phenyl, where each occurrence of m is independently an integer ranging from 1 to 9, but when Z is phenyl then m is 1;

(b) G is $(CH_2)_x$ where x is 1-7, CH_2H=CHCH_2. CH=CH, CH_2-pheny-CH_2, or phenyl;

(c) W^1 and W^2 are independently L, V, $C(R^1)(R^2)$-$(CH_2)_c$-$C(R^3)(R^4)$-$(CH_2)_n$-Y, or $C(R^1)(R^2)$-$(CH_2)_c$-V where c is 1 or 2 and n is an integer ranging from 0 to 7;

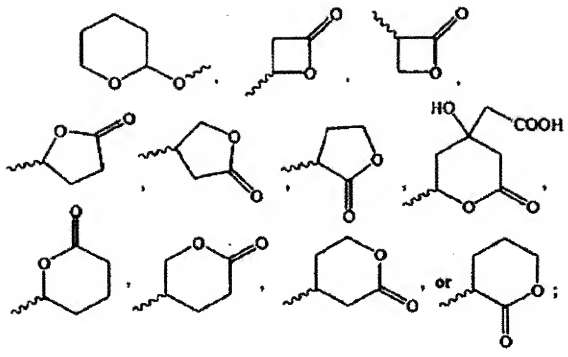
(d) each occurrence of R^1 or R^2 is independently $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, phenyl, or benzyl or when one or both of W^1 and W^2 is $C(R^1)(R^2)$-$(CH_2)_c$-$C(R^3)(R^4)$-$(CH_2)_n$-Y, then R^1 and R^2 can both be H to form a methylene group; or R^1 and R^2 and the carbon to which they are both attached are taken together to form a $(C_3$-$C_7)$cycloakyl group;

(e) R^3 is H, $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_1$-$C_6)$alkoxyl, phenyl, benzyl, Cl, Br, CN, NO_2, or CF_3;

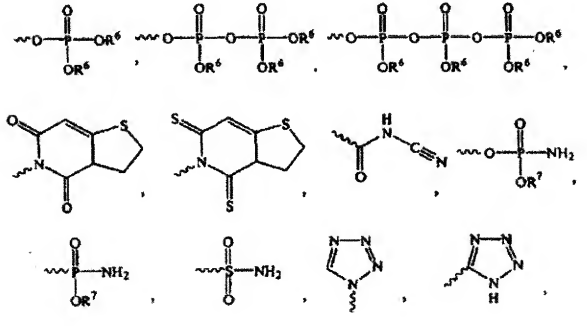
(f) R^4 is OH, $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_1$-$C_6)$alkoxyl, phenyl, benzyl, Cl, Br, CN, NO_2, or CF_3;

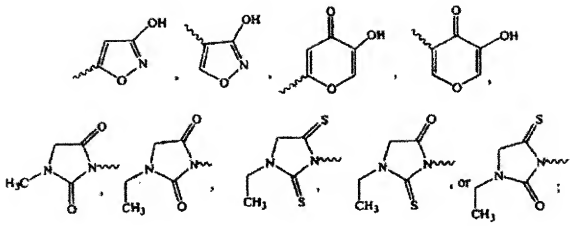
(g) L is $C(R^1)(R^2)$-$(CH_2)_n$-Y, wherein n is an integer from 1 to 5 ~~0 to 5~~;

(h) V is:



(i) each occurrence of Y is independently $(C_1\text{-}C_6)$alkyl, OH, COOH, $COOR^5$, SO_3H,





wherein:

(i) R^5 is $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, $(C_1\text{-}C_6)$alkoxy, or phenyl groups,

(ii) each occurrence of R^6 is independently H, $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl and is unsubstituted or substituted with one or two halo, OH, $(C_1\text{-}C_6)$alkoxy, or phenyl groups;

(iii) each occurrence of R^7 is independently H, $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl; and

(j) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.

Claim 2 (original): The compound of claim 1, wherein G is $(CH_2)_2$.

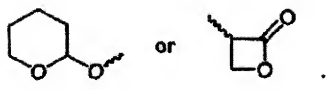
Claim 3 (original): The compound of claim 1, wherein each occurrence of Z_m is independently (CH_2) and m is 1-4.

Claim 4 (original): The compound of claim 1, wherein each occurrence of W^1 and W^2 is independently L.

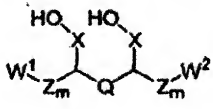
Claim 5 (original): The compound of claim 2, wherein L is $C(CH_3)_2\text{-}(CH_2)\text{-OH}$.

Claim 6 (currently amended): The compound of claim 1, wherein each occurrence of W^1 and W^2 is independently V [[v]].

Claim 7 (original): The compound of claim 6, wherein V is



Claim 8 (previously amended): A compound of the formula II:



II

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:

(a) each occurrence of Z is independently CH_2 or CH=CH, wherein each occurrence of m is independently an integer ranging from 1 to 9;

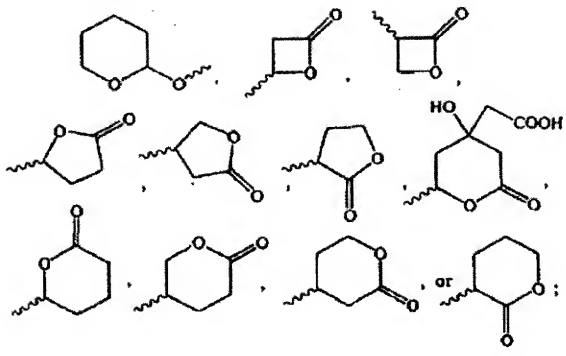
(b) Q is $(CH_2)_x$, $CH_2CH=CHCH_2$, or CH=CH, where x is 2, 3, or 4;

(c) W^1 and W^2 are independently L, V, or $C(R^1)(R^2)$-$(CH_2)_c$-V, where c is 1 or 2;

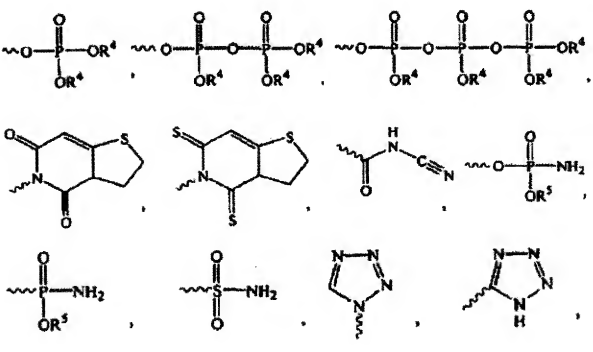
(d) each occurrence of R^1 and R^2 is independently $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, phenyl, benzyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a $(C_3$-$C_7)$cycloalkyl group;

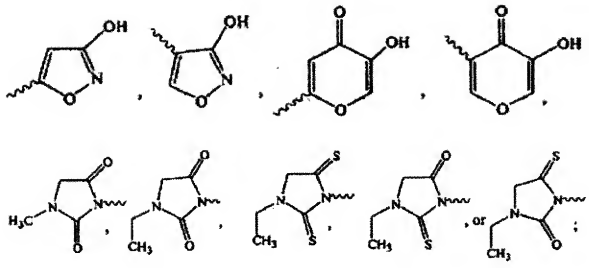
(e) L is $C(R^1)(R^2)$-$(CH_2)_n$-Y, where n is an integer ranging from 0 to 5;

(f) V is:



(g) each occurrence of Y is independently (C_1-C_6)alkyl, OH, COOH, $COOR^3$, SO_3H,





wherein:

(i) R^3 is (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6)alkoxy, or phenyl groups,

(ii) each occurrence of R^4 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl and is unsubstituted or substituted with one or two halo, OH, (C_1-C_6)alkoxy, or phenyl groups; and

(iii) each occurrence of R^5 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl; and

(h) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.

Claim 9 (original): The compound of claim 8, wherein each occurrence of W^1 and W^2 is independently L.

Claim 10 (original): The compound of claim 9, wherein L is $C(CH_3)_2$-$(CH_2)_n$-Y.

Claim 11 (original): The compound of claim 10, wherein each occurrence of Y is independently OH, $COOR^7$, or COOH.

Claim 12 (previously amended): The compound of claim 8, wherein Q is CH=CH.

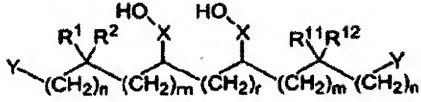
Claim 13 (original): The compound of claim 8, wherein Z_m is CH_2 and m is 1-3.

Claim 14 (original): The compound of claim 8, wherein each of W_1 and W_2 is independently $C(R^1)(R^2)$-(CH_2)-V.

Claim 15 (original): The compound of claim 14, wherein R^1 and R^2 are each independently $(C_1$-$C_6)$alkyl.

Claim 16 (original): The compound of claim 15, wherein R^1 and R^2 are each methyl.

Claim 17 (original): A compound of the formula III



III

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:

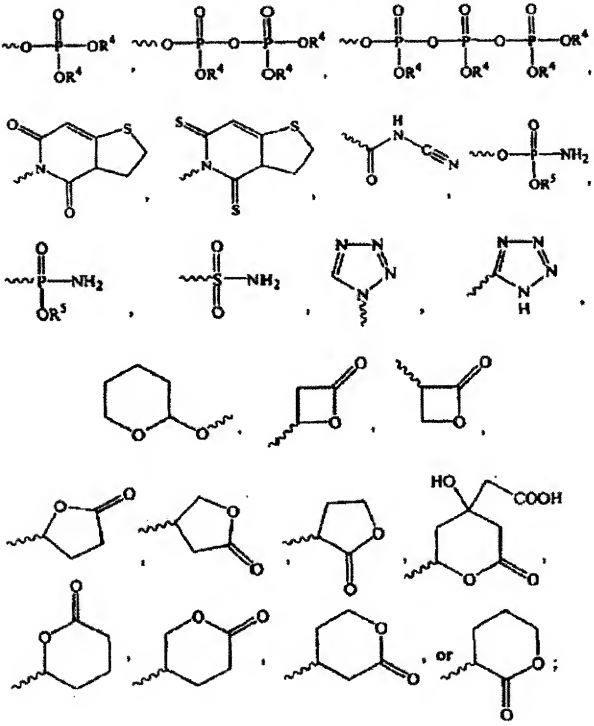
(a) each occurrence of m is independently an integer ranging from 1 to 9;

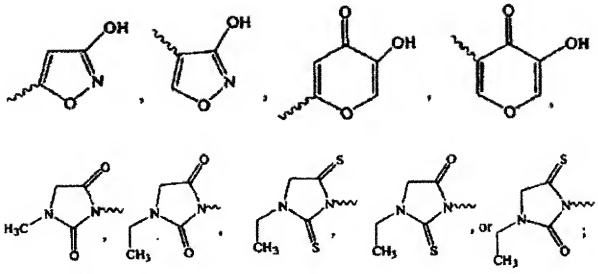
(b) r is 2, 3, or 4;

(c) each occurrence of n is independently an integer ranging from 0 to 7;

(d) each occurrence of R^1, R^2, R^{11}, and R^{12} is independently $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, phenyl, benzyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a $(C_3$-$C_7)$cycloalkyl group, or R^{11} and R^{12} and the carbon to which they are both attached are taken together to form a $(C_3$-$C_7)$cycloalkyl group; and

(e) each occurrence of Y is independently (C_1-C_6)alkyl, OH, COOH, $COOR^3$, SO^3H,





wherein:

(i) R^3 is (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6)alkoxy, or phenyl groups,

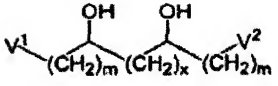
(ii) each occurrence of R^4 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl and is unsubstituted or substituted with one or two halo, OH, (C_1-C_6)alkoxy, or phenyl groups;

(iii) each occurrence of R^5 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl; and

(f) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.

Claim 18 (original): The compound of claim 17, wherein each occurrence of Y^1 and Y^2 is independently OH, $COOR^3$, or COOH.

Claim 19 (original): A compound of the formula IV



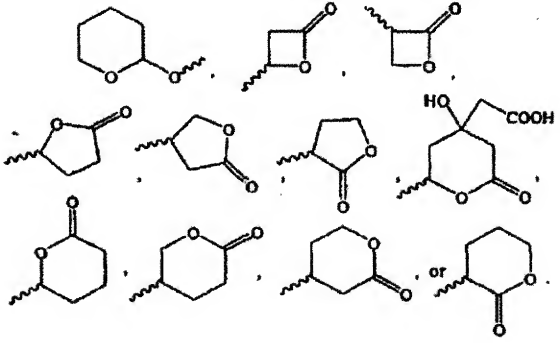
IV

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:

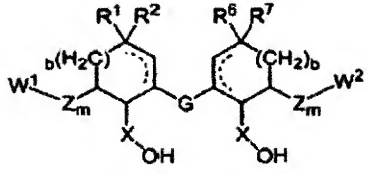
(a) each occurrence of m is an independent integer ranging from 1 to 9;

(b) x is 2, 3, or 4;

(c) each of V^1 and V^2 is independently:



Claim 20 (original): A compound of the formula V:



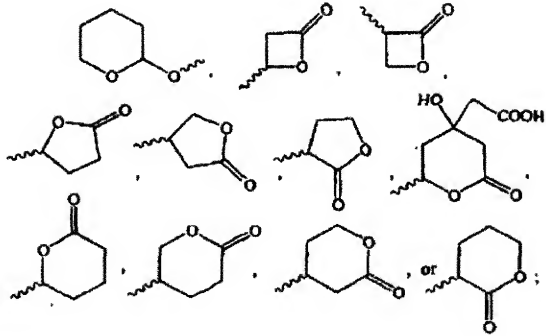
V

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:

(a) each occurrence of Z is independently CH_2, CH=CH, or phenyl, where each occurrence of m is independently an integer ranging from 1 to 5, but when Z is phenyl then its associated m is 1;

(b) G is $(CH_2)_x$, $CH_2CH=CHCH_2$, CH=CH, CH_2-phenyl-CH_2, or phenyl, where x is an integer ranging from 1 to 7;

(c) W^1 and W^2 are independently $C(R^8)(R^9)$-$(CH_2)_n$-Y, where n is an integer ranging from 0 to 7;

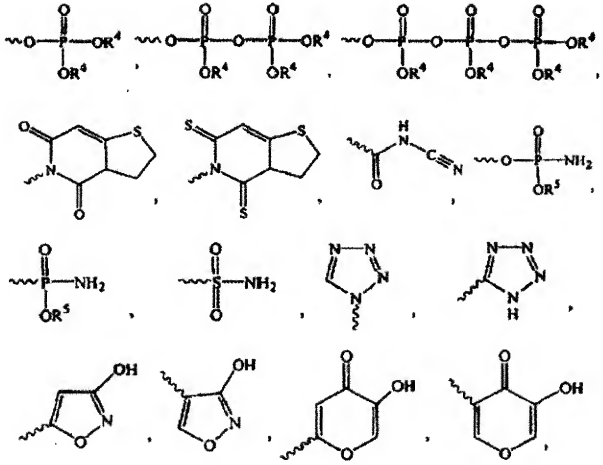


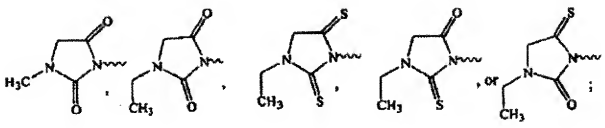
(d) each occurrence of R^8 and R^9 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, phenyl, or benzyl or R^8 and R^9 can be taken together to form a carbonyl group;

(e) each occurrence of R^1 and R^2 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, phenyl, or benzyl or R^1 and R^2 can be taken together to form a carbonyl group or R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7)cycloalkyl group;

(f) each occurrence of R^6 and R^7 is independently H, (C_1-C_6)alkyl, or R^6 and R^7 can be taken together to form a carbonyl group or R^6 and R^7 and the carbon to which they are both attached are taken together to form a (C_3-C_7)cycloalkyl group;

(g) Y is independently (C_1-C_6)alkyl, OH, COOH, $COOR^3$, SO_3H,





wherein:

(i) R^3 is (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6)alkoxy, or phenyl groups,

(ii) each occurrence of R^4 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl and is unsubstituted or substituted with one or two halo, OH, (C_1-C_6)alkoxy, or phenyl groups;

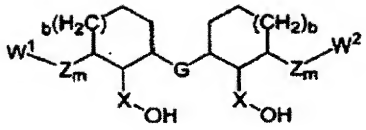
(iii) each occurrence of R^5 is independently H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, or (C_2-C_6)alkynyl;

(h) each occurrence of b is independently 0 or 1 or optionally the presence of one or more additional carbon-carbon bonds that when present complete one or more carbon-carbon double bonds; and

(i) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.

Claim 21 (original): The compound of claim 20, wherein each occurrence of W^1 and W^2 is an independent $C(R^1)(R^2)$-$(CH_2)_n$-Y group and each occurrence of Y is independently OH, $COOR^3$, or COOH.

Claim 22 (original): A compound of the formula VI:



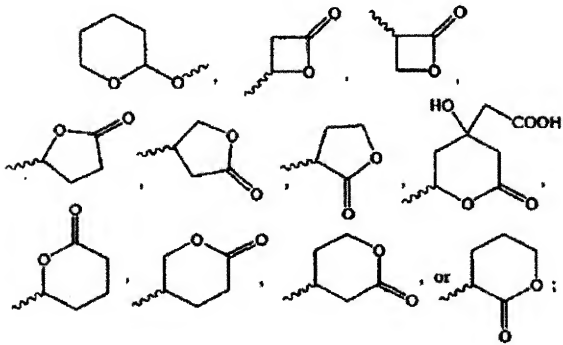
VI

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein

(a) each occurrence of m is independently an integer ranging from 1 to 5;

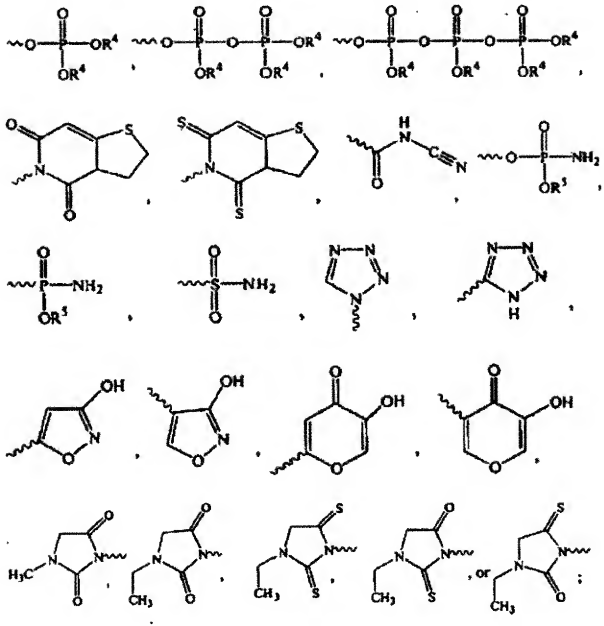
(b) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4;

(c) W^1 and W^2 are independently $C(R^1)(R^2)$-$(CH_2)_n$-Y, where n is an integer ranging from 0 to 7;



(d) each occurrence of R^1 or R^2 is independently $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a $(C_3$-$C_7)$cycloalkyl group;

(e) Y is $(C_1\text{-}C_6)$alkyl, $(CH_2)_nOH$, $(CH_2)_nCOOH$, $(CH_2)_nCOOR^3$, SO_3H,



wherein:

(i) R^3 is $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, $(C_1\text{-}C_6)$alkoxy, or phenyl groups,

(ii) each occurrence of R^4 is independently H, $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl and is unsubstituted or substituted with one or two halo, OH, $(C_1\text{-}C_6)$alkoxy, or phenyl groups;

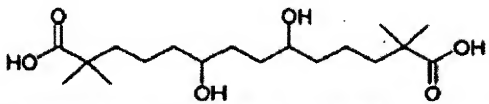
(iii) each occurrence of R^5 is independently H, $(C_1\text{-}C_6)$alkyl, $(C_2\text{-}C_6)$alkenyl, or $(C_2\text{-}C_6)$alkynyl;

(f) each occurrence of b is independently 0 or 1; and

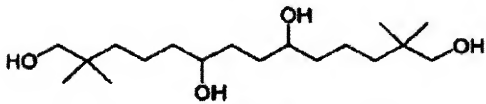
(g) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.

Claim 23 (previously amended): The compound of claim 22, wherein each occurrence of W^1 and W^2 is independently $C(R^1)(R^2)\text{-}(CH_2)_n\text{-}Y$ and each occurrence of Y is independently OH, $COOR^3$, or COOH.

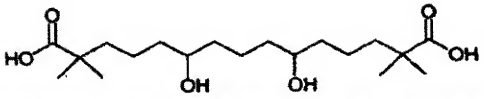
Claim 24 (previously amended): A compound of structure:



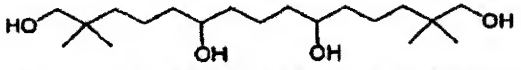
6,9-Dihydroxy-2,2,13,13-tetramethyl-tetradecanedioic acid;



2,2,13,13-Tetramethyl-tetradecane-1,6,9,14-tetraol;



6,10-Dihydroxy-2,2,14,14-tetramethyl-pentadecanedioic acid; and



2,2,14,14-Tetramethyl-pentadecane-1,6,10,15-tetraol.

;

or a pharmaceutically acceptable salt, hydrate, or solvate thereof.

Claim 25 (original): A pharmaceutical composition comprising a compound of claim 1, 8, 17, 19, 20, 22, or 24 and a pharmaceutically acceptable vehicle, excipient, or diluent.

Claim 26 (original): A pharmaceutical composition comprising a compound of claim 1, 8, 17, 19, 20, 22, or 24 and further comprising a second therapeutic agent.

Claim 27 (currently amended): A method for treating or preventing aging, Alzheimer's Disease, cancer, cardiovascular disease, diabetic nephropathy, diabetic retinopathy, a disorder of glucose metabolism, dyslipidemia, dyslipoproteinemia, hypertension, impotence, inflammation, insulin resistance, lipid elimination in bile, obesity, oxysterol elimination in bile, pancreatitis, pancreatitius, Parkinson's disease, a peroxisome proliferator activated receptor-associated disorder, phospholipid elimination in bile, renal disease, septicemia, Syndrome X, thrombotic disorder, modulating C reactive protein, or enhancing bile production in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically ~~proplyleutrally~~ effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 28 (original): A method for treating or preventing cardiovascular disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 29 (original): A method for treating or preventing a dyslipidemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 30 (original): A method for treating or preventing a dyslipoproteinemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 31 (original): A method for treating or preventing a disorder of glucose metabolism in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 32 (original): A method for treating or preventing a Alzheimer's disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 33 (original): A method for treating or preventing Syndrome X in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 34 (original): A method for treating or preventing a septicemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 35 (original): A method for treating or preventing a thrombotic disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 36 (original): A method for treating or preventing a peroxisome proliferator activated receptor associated disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 37 (original): A method for treating or preventing obesity in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 38 (original): A method for treating or preventing pancreatitis in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 39 (original): A method for treating or preventing hypertension in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 40 (original): A method for treating or preventing renal disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 41 (original): A method for treating or preventing cancer in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 42 (original): A method for treating or preventing inflammation in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 43 (original): A method for treating or preventing impotence in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 44 (original): A method for treating or preventing a neurodegenerative disease or disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 45 (original): A method of inhibiting hepatic fatty acid synthesis in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 46 (original): A method of inhibiting sterol synthesis in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

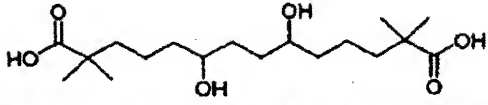
Claim 47 (original): A method of treating or preventing metabolic syndrome disorders in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 48 (original): A method of treating or preventing a disease or disorder that is capable of being treated by increasing HDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 49 (original): A method of treating or preventing a disease or disorder that is capable of being treated by lowering LDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

Claim 50 (original): A pharmaceutical composition comprising a compound of claim 1, 8, 17, 19, 20, 22, 24, or 26 and a pharmaceutically acceptable vehicle, excipient, or diluent which is administered in combination with a statin.

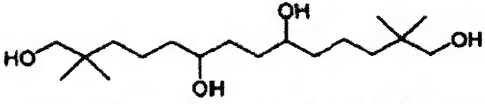
Claim 51 (original): A compound according to claim 1 wherein said compound has the structure:



6,9-Dihydroxy-2,2,13,13-tetramethyl-tetradecanedioic acid;

or a pharmaceutically acceptable salt, hydrate, or solvate thereof.

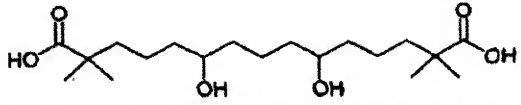
Claim 52 (original): A compound according to claim 1 wherein said compound has the structure:



2,2,13,13-Tetramethyl-tetradecane-1,6,9,14-tetraol;

or a pharmaceutically acceptable salt, hydrate, or solvate thereof.

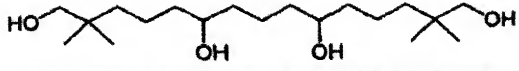
Claim 53 (original): A compound according to claim 1 wherein said compound has the structure:



6,10-Dihydroxy-2,2,14,14-tetramethyl-pentadecanedioic acid;

or a pharmaceutically acceptable salt, hydrate, or solvate thereof.

Claim 54 (original): A compound according to claim 1 wherein said compound has the structure:



2,2,14,14-Tetramethyl-pentadecane-1,6,10,15-tetraol.;

or a pharmaceutically acceptable salt, hydrate, or solvate thereof.